

# Nottingham City Council

## Project Report

**Project Title: Schools' Collaboration on Resource Efficiency**

**Lead Department: Sustainability and Climate Change**



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**City Council**

## DOCUMENT CONTROL

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## 1.0 PURPOSE OF DOCUMENT

### Executive Summary

Following a successful East Midlands initiative pilot, in March 2012, the School's Forum agreed to fund two officers at £67,000 per annum (totalling £134,000) for 2012/13 and 2013/14 to deliver a bespoke energy efficiency focused programme entitled Schools' Collaboration on Resource Efficiency (SCoRE).

There is currently an under spend of £41,608. This will provide a further 6 months support from the two officers.

Since November 2012, 2 full time officers have been working in post as Schools' Energy Officers with the aim to make financial and carbon savings in schools by reducing energy consumption and associated emissions through technical and behavioural changes.

Officers set out to work with 101 city schools. Since the two Schools' Energy Officers were appointed, a total of 52 schools have converted to academy status. Due to major changes happening within these schools and feedback from staff leaning towards possible non engagement, officers decided to begin work with the 49 schools currently under control of the local authority. Officers were tasked with implementing technical changes alongside behavioural change within schools.

By undertaking detailed energy surveys and data analysis, it was realised that even with extensive behavioural intervention, significant amounts of additional funding is needed to secure major technical changes such as boiler and lighting replacement, which in turn will lead to the substantial financial savings.

Therefore, due to this constraint, the officers have constantly focused on what can be achieved directly with the schools and developed a longer term plan that identifies investment measures and appropriate funding that could be secured to deliver it. This will be delivered if the SCoRE programme remains supported by the School's forum. Both School's Energy Officers are qualified energy surveyors will remain engaged with the current 49 schools under control of the local authority the schools, extending the project to encompass all schools, shifting the focus of the programme.

The officers initially worked with the twelve schools that signed up at the SCoRE launch, considerable chasing was carried out but engagement was lower than expected. Using the available funding and implementing technical and behavioural change measures, coupled with teaching from foundation aged children upwards and advice sessions for adults, using available data, over a six month period the project reported the following savings:

- **£42,000 energy savings** pro rata inclusive of CRC
- **132 tonnes of CO<sub>2</sub> savings** pro rata

The officers then succeeded in engaging the remaining 37 local authority schools through promotion, word of mouth and continuous engagement.

Based on surveys carried out and conditions studied, predicted savings calculated for similar interventions as and where needed over the schools' estate stand at just over **£156,678** annually.

## 2.0 PROJECT OBJECTIVES ACHIEVEMENT

**Detailed below are a variety of activities that the school's energy officers have carried out during their appointment.**

### Internal engagement

- Conducted detailed energy surveys for the first time in schools, including the gathering and analysis of baseline data, identification of trends, walk around surveys and out of hours surveys in 49 schools so far, which would have cost an estimated **£50,800** if they were carried out by an external provider (equivalent to £1,200 per survey x 49 schools)

To date, officers have carried out 65 school visits, training around Automatic Meter Reading (AMR) including training around digital data collection and analysis, helping to schools to understand and manage energy consumption and working through bespoke action plans

- Provided bespoke energy action plans for each school inclusive of recommendation of invest to save loan measures (SALIX), decisions upon investments for technological changes and highlighting changes applicable for each energy criteria including building fabric, heating, lighting, ICT, kitchens and management

Officers are currently engaged in meetings to report findings in action plans and work on solutions with head teachers and site managers. Technical changes have included boiler timers being adjusted, installation of Burner Management Units to improve boiler efficiency, lighting and boiler improvements, installation of energy efficient radiators, hot water upgrades and planned software introduction for ICT management solution

- Advised, enthused and supported teachers, pupils, governors, bursars, business and building managers around energy efficiency and renewable energy
- Supported the writing of energy policies for schools which helps to focus activity and identify areas for improvement
- Trained staff and pupils around automatic meter reading (AMR)
- Provided curriculum enriched lessons, workshops and activity days including whole school and class assemblies, foundation teaching days, storytelling and puppetry, games, competitions, question and answer sessions, bespoke lessons and debates, eco-team, class and whole school meetings

From January 2013, 9 whole school assemblies and 16 foundation teaching days have been delivered, 16 travelling theatre productions and 22 whole school activity days have been booked for delivery. By March 2014, all schools will have received educational input

- Helped schools to achieve Eco-Schools status through giving knowledge, guidance and providing links to criteria

Officers are engaging with 12 schools currently

- Provided better working co-ordination through building strong relationships with Major Programmes, identifying problematic schools, resolving problems and providing solutions swiftly

Officers have held numerous meetings, passing on to the relevant persons problems affecting the fabric and working of schools gaining solutions such more energy efficient measures

- Built relationships with Catering and Facilities to incorporate energy reduction measures for catering and cleaning, enabling schools to request assistance when excess energy usage is identified

SCoRE officers have held numerous meetings with catering and facilities managers around energy saving and issues arising in school kitchens. Officers have a planned live 'cook along' booked in Nottingham City Centre with school cooks and will then be holding 12 training sessions with school catering and cleaning staff

### External engagement

- The school's energy officers have secured services and products to the value of **£89,588** from various organisations such as NPower, Eon, We-Go couriers and others  
The first table shows funds directly saved and the second illustrates supporting goods:

Value in kind, services and time from existing City Energy Team	£20,000
Eon lighting funding	£2,000
Energy surveys	£11,000
Three phase energy monitors	£888

Bespoke assembly	£180
Wind turbine lessons	£1,100
Travelling play	£10,800
Science Technology Engineering Maths shuttle (mobile interactive classroom including electric go-karts)	£10,800
E.ON Teaching packs	£300
Domestic/class energy monitors	£1,680
Radiator foils	£500
Climate Cops Academy days	£12,000
Mini thermometers	£40
Open House picnic primary energy lesson	£3,300
Open house picnic primary energy lesson (with potential to roll out to all SCoRE schools)	£15,000

<b>Total</b>	<b>£89,588</b>
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The tangible products gained are being distributed to schools by officers as and when required and in line with the project.

Value in kind gained from the existing energy team has brought together much needed knowledge, contacts and provided access to existing data.

Teaching the wider school community about energy and carbon savings through travelling plays, lessons and activities will prompt changes in behaviour. Behavioural change

changes ways of living and promotes sustainability. This change saves carbon emissions, and in turn gains money for schools.

For a school to be really effective in carbon saving, changes both in technology and behaviour must take place.

The SCoRE project introduces energy and climate change at a very early age, extending to all pupils, raising awareness and motivating.

Science for Environment Policy Green Behaviour Future Brief 2012 states:

‘It is recognised that the sum of our individual or household behaviours has a substantial impact on the environment’.

School children need to be taught about green behaviour as stated in the Climate Change and Schools: A Carbon management strategy for the school sector written in 2013:

‘Schools have a special role to play in reducing emissions, a role that goes beyond their contribution to reducing national emissions...By engaging children in action to reduce emissions, school can enhance children’s learning and build their understanding of how they can respond to climate change’.

- Collaborated with various departments, strengthening working relationships and ensuring smooth cohesion whilst working on numerous public engagements including community and school based events with various Councillors and colleagues from, DECC (Department of Energy and Climate Change) supporting WEE (Waste Energy Electrical), WISE (Waste in Schools’ Education), Love Food, Hate Waste

To date, SCoRE has been involved in 16 public engagements leading to involvement with more schools and raising the profile of SCoRE

- The success of the SCoRE project has been recognised, it has been used as a model to win a bid to begin work with 10 schools based in Northampton, as part of collaborative style working entitled ‘Smarter energy’, an arrangement with WISE, RE:FIT, SALIX and Solar PV, advising and sharing good practice

Officers will soon be working on a package developed for supporting education and behavioural change within the schools in Northampton

- Advised teachers around key areas of sustainability, climate change and energy, providing information , ideas and guidance on switch-off campaigns
- Achieved external funding for energy related projects

Helped by SCoRE officers, Melbury School won £2000 from E.ON’s Schools’ energy action fund in July 2013 to improve lighting, save energy and associated carbon emissions.

- Increased schools’ awareness on energy through close liaison with Marketing and Communications, appearing on BBC radio Nottingham, in the Nottingham Evening Post, Impact magazine, on the City’s intranet and in school newsletters

The schools that the SCoRE officers have engaged in teaching and learning, behavioural and technical changes with are:

- Dovecoat Primary School
- Hempshill Hall Primary and Nursery School
- Henry Whipple Primary School
- Hogarth Primary and Nursery School
- Melbury Primary and Nursery School
- Radford Primary School
- Rise Park Primary School
- Robin Hood Primary School
- Snape Wood Primary and Nursery School
- South Wilford Endowed CE Primary School
- Stanstead Primary and Nursery School

The remainder of schools under local authority have received an energy survey and will be given their energy reduction action plan. The remainder of schools are being booked in.

### 3.0 RECOMMENDATIONS

We propose that SCoRE should continue for the next two years. Officers will:

- Look as a priority in securing SALIX funding totalling **£1 million** for energy efficiency improvements within schools based on the energy surveys that have been carried out. Works will include boiler replacements, improved heating systems, improved lighting, Burner Management Units, insulation and ICT management
- Develop into a service which is able to change behaviour through offering workshops, advice and training on energy related issues to the extended and wider school community as requested regularly by head teachers, parents, governors and community groups
- Develop and pilot a sold service aimed at academies from which any revenue can be shared with the School's Forum and inclusive of all energy, water and DEC advice and support
- Continue to make savings by fostering and improving existing links and working relationships made over the last two years with Catering and Facilities, Major Programmes, Education and Property Services alongside the wider school community
- Learn from and develop the capability to mirror savings by liaising closely with the RE:FIT programmes taking place in both London and Leeds, where it is thought that for London, the Schools Energy Efficiency Programme could save schools £32million in energy costs and reduce carbon emissions by more than 125,000 tonnes over the next 10 years *source: <http://www.refit.org.uk/refit-schools>*

### 4.0 BUSINESS PROPOSAL

**SCoRE will develop a capital programme, put out a tender and gain a preferred supplier, deliver and make savings which are maintained by schools.**

Currently, there remains a carry-over of **£41,608** from Schools Forum funding from spending to date, this will enable the officers to continue and develop their program until September 2016. It is recommended that Schools Forum agrees to underwrite the funding of two officers for the next two years (6 months already funded) at £134k from October 2014.

The City Council's Energy Services Team has a Project Management Office in place and is waiting to work on the continuation of SCoRE, utilising the contacts and relationships with City Councillors, Schools, Major Programmes, Education, Marketing and Communications, Catering and Facilities and external providers.



## APPENDIX

<b>Funding received</b>	<b>£134,000</b>
<b>Monies spent</b>	
Salaries x 2 Energy Officers (up to March 2014)	£84,706
General expenditure (up to March 2014)	£7,686
<b>Spending to date</b>	<b>£92,392</b>

<b>Net</b>	<b>£41,608</b>
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<b>Savings made to date</b>	
Technical intervention and behavioural change savings across schools to date	£42,000

<b>Value gained</b>	
Value of surveys carried out by SCoRE officers	£50,800
Value of services and products gained by SCoRE	£89,348
<b>Total</b>	<b>£140,148</b>

<b>Proposal</b>	
SCoRE officers for 2 x 2014- 2016 from Oct 2014 to Sep 2016	£134,000
<b>Total requested from School's Forum</b>	<b>£134,000</b>

Total requested from School's Forum	£134,000
Savings predicted for 2014-2016 made through SCoRE project	£314,000
<b>Grand savings</b>	<b>£180,000</b>